

### **Abstract of the Disclosure**

A disk drive manufacturing method calibrates the stitching gain of a position error signal (PES) by sampling servo information from a quadrature servo pattern while the head is maintained at the quarter-track positions and then calculating the kurtosis of the distribution of the PES values calculated from the samples. Because the kurtosis is a measure of the deviation from a normal or Gaussian distribution, the kurtosis of a PES distribution is used to optimize the stitching gain value through iteration until the kurtosis is close to zero, indicating that the PES with the optimal stitching gain values has a near-Gaussian distribution. The stitching gain calibration is performed for all heads and for multiple tracks across the surface of the disk for each head. The resulting values of stitching gain, each associated with a head and track, are stored in the disk drive memory and recalled during operation of the disk drive.